

1. ~~53.~~ (Twice Amended) A communication system comprising:

a communication device configured to receive a continuous wave signal and to output a modulated continuous wave signal responsive to the receiving; and

C1 an interrogator configured to reduce an amplitude of a component of the modulated continuous wave signal having a frequency of the continuous wave signal while substantially maintaining an amplitude of another component of the modulated continuous wave signal having another frequency;

wherein the interrogator is configured to reduce the amplitude of the component prior to demodulation of the modulated continuous wave signal.

54. The system of claim 53 wherein the communication device is configured to backscatter modulate the continuous wave signal to output the modulated continuous wave signal.

55. The system of claim 53 wherein the communication device comprises a radio frequency identification device.

56. The system of claim 53 wherein the interrogator is configured to receive the continuous wave signal and to reduce the amplitude of the component of the modulated continuous wave signal using the continuous wave signal.

57. The system of claim 53 wherein the interrogator is configured to receive the continuous wave signal and to reduce the amplitude of the component of the modulated continuous wave signal using the continuous wave signal including adjusting at least one of an amplitude and a phase of the continuous wave signal and combining the adjusted continuous wave signal with the modulated continuous wave signal.

58. The system of claim 57 wherein the modulated continuous wave signal comprises a data portion, and wherein the interrogator is configured to adjust the continuous wave signal before reception of the data portion.

59. The system of claim 53 wherein the interrogator is configured to receive the continuous wave signal and to reduce the amplitude of the component of the modulated continuous wave signal using the continuous wave signal including matching an amplitude of the continuous wave signal with an amplitude of the modulated continuous wave signal, adjusting a phase of the continuous wave signal, and summing the adjusted continuous wave signal with the modulated continuous wave signal.

10, 60. (Amended) An interrogator comprising:

62 a receiver configured to receive a continuous wave signal having a frequency and a modulated continuous wave signal, the receiver being further configured to reduce an amplitude of a component of the modulated continuous wave signal having the frequency of the continuous wave signal using the continuous wave signal while substantially maintaining an amplitude of another component of the modulated continuous wave signal having another frequency;

wherein the receiver is configured to reduce the amplitude of the component prior to demodulation of the modulated continuous wave signal.

61. The interrogator of claim 60 wherein the receiver is configured to reduce the amplitude of the component of the modulated continuous wave signal using the continuous wave signal including adjusting at least one of an amplitude and a phase of the continuous wave signal and combining the adjusted continuous wave signal with the modulated continuous wave signal.

62. The interrogator of claim 61 wherein the modulated continuous wave signal comprises a data portion, and wherein the receiver is configured to adjust the continuous wave signal before reception of the data portion.

63. The interrogator of claim 60 wherein the receiver is configured to reduce the amplitude of the component of the modulated continuous wave signal using the continuous wave signal including matching an amplitude of the continuous wave signal with the amplitude of the modulated continuous wave signal, adjusting a phase of the continuous wave signal, and summing the adjusted continuous wave signal with the modulated continuous wave signal.

14. ~~64.~~ (Twice Amended) An interrogator comprising:

03 a receiver configured to receive a local signal and a communication signal, the receiver being further configured to adjust the local signal responsive to the communication signal and to reduce an amplitude of a component of the communication signal having a first frequency using the adjusted local signal while substantially maintaining an amplitude of another component of the communication signal having another frequency.

65. The interrogator of claim 64 wherein the local signal comprises a continuous wave signal and the communication signal comprises a modulated continuous wave signal.

66. The interrogator of claim 64 wherein the receiver is configured to adjust the local signal including adjusting at least one of an amplitude and a phase of the local signal and to combine the adjusted local signal and the communication signal to reduce the amplitude of the component of the communication signal having the first frequency.

67. The interrogator of claim 64 wherein the receiver is configured to adjust the local signal including matching an amplitude of the local signal with an amplitude of the modulated continuous wave signal and adjusting a phase of the local signal.

68. The interrogator of claim 67 wherein the receiver is configured to sum the adjusted local signal with the communication signal to reduce the amplitude of the component of the communication signal having the first frequency.

69. The interrogator of claim 64 wherein the communication signal comprises a data portion and the receiver is configured to adjust the local signal before reception of the data portion.

24.78 (Amended) A communication method comprising:

communicating a continuous wave signal having a frequency;

communicating a modulated continuous wave signal responsive to the continuous wave signal using a communication device;

receiving the modulated continuous wave signal; and

reducing an amplitude of a component of the modulated continuous wave signal having the frequency of the continuous wave signal after the receiving while substantially maintaining an amplitude of a component of the modulated continuous wave signal having a frequency different than the frequency of the continuous wave signal;

wherein the reducing comprises reducing prior to demodulation of the modulated continuous wave signal.

71. The method of claim 70 wherein the communicating the modulated continuous wave signal comprises backscatter modulating the continuous wave signal.

72. The method of claim 70 wherein the communicating comprises communicating using the communication device comprising a radio frequency identification device.

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73. The method of claim 70 further comprising providing a local continuous wave signal and the reducing comprises reducing using the local continuous wave signal.

74. The method of claim 70 further comprising providing a local continuous wave signal and the reducing comprises reducing using the local continuous wave signal including adjusting at least one of an amplitude and a phase of the local continuous wave signal and combining the adjusted local continuous wave signal and the modulated continuous wave signal.

75. The method of claim 74 wherein the modulated continuous wave signal comprises a data portion, and the adjusting comprises adjusting before receiving the data portion.

76. The method of claim 70 further comprising providing a local continuous wave signal and the reducing comprises reducing using the local continuous wave signal including matching an amplitude of the local continuous wave signal with an amplitude of the modulated continuous wave signal, adjusting a phase of the local continuous wave signal, and summing the adjusted local continuous wave signal with the modulated continuous wave signal.

34. 77. (Twice Amended) A communication method comprising:

providing a continuous wave signal;

modulating the continuous wave signal providing a modulated continuous wave signal to communicate information;

receiving the modulated continuous wave signal; and

after the receiving, reducing an amplitude of a component of the modulated continuous wave signal having a frequency of the continuous wave signal while substantially maintaining an amplitude of another component of the modulated continuous wave signal having another frequency;

wherein the reducing comprises reducing prior to demodulation of the modulated continuous wave signal.

78. The method of claim 77 wherein the modulating comprises backscatter modulating.

79. The method of claim 77 wherein the modulating comprises modulating using a radio frequency identification device.

80. The method of claim 77 wherein the reducing comprises adjusting at least one of an amplitude and a phase of the continuous wave signal and combining the adjusted continuous wave signal and the modulated continuous wave signal.

81. The method of claim 80 wherein the modulated continuous wave signal comprises a data portion and the adjusting comprises adjusting before receiving the data portion.

82. The method of claim 77 wherein the reducing comprises matching an amplitude of the continuous wave signal with an amplitude of the modulated continuous wave signal, adjusting a phase of the continuous wave signal, and summing the continuous wave signal and the modulated continuous wave signal after the matching and the adjusting.

43. ~~83.~~ A communication method comprising:

providing a local signal;

receiving a communication signal; and

C6 after the receiving, reducing an amplitude of a first component of the communication signal while substantially maintaining an amplitude of a second component of the communication signal, the reducing comprising adjusting the local signal responsive to the communication signal and combining the communication signal and the local signal after the adjusting.

84. The method of claim 83 wherein the providing comprises communicating the local signal comprising a continuous wave signal, and further comprising communicating the communication signal comprising a modulated continuous wave signal.

85. The method of claim 83 further comprising communicating the communication signal using a radio frequency identification device.

86. The method of claim 83 wherein the reducing comprises adjusting at least one of an amplitude and a phase of the local signal and combining the local signal and the communication signal after the adjusting.

87. The method of claim 86 wherein the communication signal comprises a data portion and the adjusting comprises adjusting before receiving the data portion.

88. The method of claim 83 wherein the reducing comprises matching an amplitude of the local signal with an amplitude of the communication signal, adjusting a phase of the local signal, and summing the local signal and the communication signal after the matching and the adjusting.

89. The system of claim 53 wherein the interrogator is configured to reduce the amplitude of the component from one non-zero value to another non-zero value less than the one non-zero value.

C7 9. ~~90.~~ (Amended) The system of claim ~~53~~¹ wherein the interrogator is configured to reduce the amplitude of the component prior to quadrature demodulation of the modulated continuous wave signal.

14. ~~91.~~¹⁰ The interrogator of claim ~~60~~ wherein the receiver is configured to reduce the amplitude of the component from one non-zero value to another non-zero value less than the one non-zero value.

C8 15. ~~92.~~¹⁰ (Amended) The interrogator of claim ~~60~~ wherein the receiver is configured to reduce the amplitude of the component prior to quadrature demodulation of the modulated continuous wave signal.

93. The interrogator of claim 64 wherein the receiver is configured to reduce the amplitude of the component from one non-zero value to another non-zero value less than the one non-zero value.

94. The interrogator of claim 64 wherein the receiver is configured to reduce the amplitude of the component prior to demodulation of the modulated continuous wave signal.

95. The method of claim 70 wherein the reducing comprises reducing the amplitude of the component from one non-zero value to another non-zero value less than the one non-zero value.

~~96.~~ (Amended) The method of claim 70 wherein the reducing comprises reducing prior to quadrature demodulation of the modulated continuous wave signal.

97. The method of claim 70 wherein the communicating the continuous wave signal, the receiving and the reducing comprise using an interrogator.

98. The method of claim 77 wherein the reducing comprises reducing the amplitude of the component from one non-zero value to another non-zero value less than the one non-zero value.

CA 41. ~~99~~³⁴ (Amended) The method of claim ~~77~~ wherein the reducing comprises reducing prior to quadrature demodulation of the modulated continuous wave signal.

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100. The method of claim 77 wherein the providing, the receiving, and the reducing comprise using an interrogator and the modulating comprises using a communication device.

101. The method of claim 83 wherein the reducing comprises reducing the amplitude of the first component from one non-zero value to another non-zero value less than the one non-zero value.

102. The method of claim 83 wherein the reducing comprises reducing prior to demodulation of the modulated continuous wave signal.

103. The method of claim 83 wherein the providing, the receiving, and the reducing comprise using an interrogator, and further comprising communicating the communication signal using a communication device.

104. A coherent backscatter system communication method comprising:
reducing an amplitude of a frequency component of a modulated continuous wave signal using a receiver, the reducing including:

adjusting an amplitude and a phase of a local continuous wave signal providing an adjusted continuous wave signal; and

summing the adjusted continuous wave signal with the modulated continuous wave signal.

53. ~~105~~ (New) A communication system comprising:

a communication device configured to receive a continuous wave signal and to output a modulated continuous wave signal responsive to the receiving; and

an interrogator configured to reduce an amplitude of a component of the modulated continuous wave signal having a frequency of the continuous wave signal while substantially maintaining an amplitude of another component of the modulated continuous wave signal having another frequency;

C10 wherein the interrogator is configured to receive the continuous wave signal and to reduce the amplitude of the component of the modulated continuous wave signal using the continuous wave signal including matching an amplitude of the continuous wave signal with an amplitude of the modulated continuous wave signal, adjusting a phase of the continuous wave signal, and summing the adjusted continuous wave signal with the modulated continuous wave signal.

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~~106~~ (New) An interrogator comprising:

a receiver configured to receive a continuous wave signal having a frequency and a modulated continuous wave signal, the receiver being further configured to reduce an amplitude of a component of the modulated continuous wave signal having the frequency of the continuous wave signal using the

continuous wave signal while substantially maintaining an amplitude of another component of the modulated continuous wave signal having another frequency;

wherein the receiver is configured to reduce the amplitude of the component of the modulated continuous wave signal using the continuous wave signal including matching an amplitude of the continuous wave signal with the amplitude of the modulated continuous wave signal, adjusting a phase of the continuous wave signal, and summing the adjusted continuous wave signal with the modulated continuous wave signal.

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C10 ~~107~~. (New) A communication method comprising:

communicating a continuous wave signal having a frequency;

communicating a modulated continuous wave signal responsive to the continuous wave signal using a communication device;

receiving the modulated continuous wave signal;

reducing an amplitude of a component of the modulated continuous wave signal having the frequency of the continuous wave signal after the receiving while substantially maintaining an amplitude of a component of the modulated continuous wave signal having a frequency different than the frequency of the continuous wave signal; and

providing a local continuous wave signal and the reducing comprises reducing using the local continuous wave signal including matching an amplitude

of the local continuous wave signal with an amplitude of the modulated continuous wave signal, adjusting a phase of the local continuous wave signal, and summing the adjusted local continuous wave signal with the modulated continuous wave signal.

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108. (New) A communication method comprising:

providing a continuous wave signal;

modulating the continuous wave signal providing a modulated continuous wave signal to communicate information;

receiving the modulated continuous wave signal; and

after the receiving, reducing an amplitude of a component of the modulated continuous wave signal having a frequency of the continuous wave signal while substantially maintaining an amplitude of another component of the modulated continuous wave signal having another frequency;

wherein the reducing comprises matching an amplitude of the continuous wave signal with an amplitude of the modulated continuous wave signal, adjusting a phase of the continuous wave signal, and summing the continuous wave signal and the modulated continuous wave signal after the matching and the adjusting.

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